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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/510,963
Filing Date: November 01, 2004
Appellant(s): SCHOELA ET AL.

Harris A. Pitlick
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 19, 2007 appealing from the Office action mailed April 23, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,305,492	Oleiko et al.	10-2001
4,904,760	Gaku et al.	02-1990
EP 0 516 299	Imperial Chemical Industries PLC	12-1992
2003/0017289	Schoela et al.	01-2003
WO 01/43952	Boesman et al.	06-2001
3,780,156	Cameron	12-1973
WO 01/56784	Schoela et al.	08-2001

Alexandria Online Dictionaries (2003), at http://www.sensagent.com/dictionaries/en-en/adhesion.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-6 and 15 stand rejected and additionally Claims 1, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by the U.S. Patent of Oleiko, et al. (US 6,305,492; hereinafter referred to as "Oleiko").

With regard to Claim 1, Oleiko teaches an acrylic sheet (see Abstract; see also Column 6, Line 59). The dimension of the sheet is 2 x 2 m or greater (see Column 8, Lines 12 – 13; see also Column 10, Lines 60 – 62; see also Column 15, Lines 63 - 67) and the thickness is more than 8 mm (see Column 5, Line 58). The sheet contains threads, tapes, grids or nets made from a material incompatible with the acrylic sheet (see Column 6, Lines 59-62). The sheet also comprises a filler that is present in the amount of 40 to 80 percent by weight (see Column 6, Lines 23 – 29; see also Column 10, Lines 38-43).

In addition, despite the fact that Oleiko recites that the noise protection wall segment consists of one of more transparent sheets, Oleiko also teaches that the polymerizable compositions may include such conventional additives as dyestuffs and pigments (see Column 10, Lines 30-37). Consequently, it follows that the presence of those materials, in the amounts taught by Oleiko, would make the transparent sheets

non-transparent. Therefore, the teachings of Oleiko anticipate both the "non-transparent sheet" limitation of Claim 1, as well as the limitations of Claim 15.

As for Claims 2, 3, 16 and 17, Oleiko states that acrylic sheet in the range from more than 8 mm to 40 mm. The sheet is "approximately 20 mm thick" which clearly meets the range as claimed (see Column 5, Lines 58 – 59; see also Column 15, Lines 63 – 67). Further, Oleiko teaches that the sheet has a thickness of approximately 2 to 30 mm, which would anticipate both the limitation that the thickness is more than 12 mm, as well as the limitation that the thickness is in the range from greater than 10 to 35 mm (see Column 10, Lines 55-65).

In terms of Claims 4, 5 and 6, Oleiko addresses the nature and quantity of the fillers. Oleiko teaches that the proportion of the fillers is in the range from 50 to 60 percent by weight (see Column 10, Lines 38 – 43). Oleiko further addresses that the sheet has substantial homogeneity of the fillers in the sheet (see Column 6, Line 35). Oleiko also states that the filler is from a group consisting of talc, dolomite, naturally occurring talc-and-dolomite intergrowths, mica, quartz, chlorite, aluminum oxide, aluminum hydroxide, clays, silicon dioxide, silicates, carbonates, phosphates, sulphates, sulphides, metal oxides, powdered glass, glass beads, ceramic, kaolin, porcelain, cristobalite, feldspar, chalk and mixtures thereof (see Column 6, Lines 23 – 29; see also Column 10, Lines 30 – 37).

Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent of Gaku, et al. (US 4,904,760). Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed above). However, Oleiko is (technically) silent as to whether the filler particles used are lamellar fillers.

Gaku, drawn to a thermosetting resin composition (which like the instant invention utilizes fillers to achieve increased resistant characteristics in the final product), teaches "examples of suitable reinforcing agents of fillers include ... lamellar filler, such as glass, molten glass, silica, fused silica, synthetic silica, silicon carbide, alumina, aluminum nitride, silica alumina, boron nitride, titanium oxide, wollastonite, mica, synthetic mice, gypsum, calcium carbonate, magnesium carbonate and magnesium oxide (see Column 9, Line 57 – Column 10, Line 14). Given the fact that Oleiko teaches using several of the same filler compounds mentioned in Gaku (which Gaku clarifies that they qualify as lamellar fillers), it would have been obvious to a person having ordinary skill in the art to use fillers, at the time of invention, that are lamellar in nature.

Claims 8 and 10 stand rejected and Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the European Patent of Imperial Chemical Industries PLC (EP 0 516 299) (hereinafter "Imperial"). Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed above). However, Oleiko is silent as to whether the average particle size of the filler used is in the range from 0.01 to 80 μm. In addition, Oleiko teaches all of the claimed features and limitations of polymerizable system, except for the fact that Oleiko fails to address both the presence of a binder in the polymerizable system, as well as the viscosity of the polymerizable system (see Column 10, Lines 1 – 43).

In terms of Claims 8, 18 and 19, Imperial, drawn to highly filled, polymerizable compositions, teaches examples of suitable fillers that not only meet the group of claimed fillers, but also overlaps with the group as discussed in Oleiko (see Page 3, Lines 30 – 38). Imperial also teaches that the preferred fillers have an average particle size in the range from 0.01 to 80 μm. Specifically, Imperial teaches that the filler particles have a maximum diameter of 150 μm, preferably not more than 90 μm (see Page 3, Line 48 – Page 4, Line 1). Therefore, it follows that the particles' diameters would fall within the ranges as claimed, be it from 0.01 to 80 μm, or from 0.05 to 30 μm, or from 0.1 to 20 μm. As a result, it would have been obvious to a person having

ordinary skill in the art at the time of invention to utilize fillers where the average particle size is in the range as claimed.

As for Claim 10, Imperial teaches the usefulness of including a binder in the polymerizable system (see Page 4, Lines 35 – 39). Specifically, Imperial states that in certain applications some bonding between the polymer matrix and the particles is achieved by the inclusion of a bonding agent (i.e., a binder). Therefore, it would have been obvious to a person having ordinary skill in the art to have included a binder in the polymerizable system at the time of invention. Additionally, Imperial teaches the viscosity of the (meth)acrylate system prior to the polymerization is greater than 0.1 Pa•s (where it is well-known that 0.1 Pa•s = 1 P = 100 cP). Specifically, Imperial that in preferred compositions the viscosity measured desirably between 15 and 70 P, but at least 5 P. Therefore, it would also have been obvious to a person having ordinary skill in the art to process the polymerizable system in such a way that the viscosity of the system is greater than 0.1 Pa•s.

Claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent Publication of Schoela, et al. (US 2003/0017289; hereinafter "Schoela-'289"). Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed

above). However, Oleiko is silent as to whether the filler is a talc-and-dolomite intergrowth.

Schoela, drawn to a self-reinforcing thermoplastically-deformable semi-finished product, teaches fillers which may be used advantageously during production include "naturally occurring adhesions of talc and dolomite." Having looked up the term "adhesion" as it relates to minerals, it appeared that an *adhesion* is synonymous with an *intergrowth*, so an adhesion of talc and dolomite is the very same entity as a talc-and-dolomite intergrowth (see Alexandria Online Dictionaries – definition of "adhesion"). Therefore, it would have been obvious to a person having ordinary skill in the art to have used a talc-and-dolomite intergrowth as a filler at the time of invention.

Claim 11 stands rejected and Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the International Publication of Boesman et al. (WO 01/43952). The International Publication of Boesman et al. was previously mislabeled as the International Publication of Clerq. Hereinafter, all references shall be cited to "Boesman" as that is the proper name of the reference. Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed above). However, Oleiko is silent as

to the inclusion of steel threads that have been embedded into the plastics matrix. Likewise, Oleiko fails to address that these metal strands can also be coated in plastic.

Boesman, drawn to a reinforcing structure for stiff composite articles, teaches that metallic elements can be used to reinforce stiff composite articles and to improve the impact properties of the composite article (see Abstract). In addition, Boesman teaches that any metal can be used to provide the metallic elements, but that preferably alloys such as high carbon steel alloys or stainless steel alloys are used (see Page 11, Lines 21 – 22)). Further, Boesman provides that the metallic elements can possess a polymer coating around the metallic elements, and that any stiff thermoplastic material can be used as a polymer matrix. Boesman specifically teaches that polyamide is a suitable thermoplastic material (see Page 9, Line 22 – Page 10, Line 6). Boesman also teaches that such a polymer coating helps to improve the adhesion between the metallic elements and the polymer matrix (see Page 9, Lines 22 – 26). Consequently, it would have been obvious to a person having ordinary skill in the art to have used either steel threads or coated steel threads (such as polyamide coated steel threads) to reinforce the composite material.

Claims 12-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent of Cameron (US

3,780,156). Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed above). In addition, Oleiko teaches the steps (a) through (d) of the process for producing the acrylic sheet (see Column 15, Lines 51 – 67; see also Column 16, Lines 5 – 19). However, Oleiko is silent as to the viscosity of the polymerizable condition, be it a quantitative measure thereof, or a qualitative approach to regulate it.

Cameron, drawn to a process for making filled methyl methacrylate articles, teaches a process for a methacrylate mixture having a viscosity of 0.5 to 50 P (see Column 4, Lines 27 – 38). Further, Cameron discusses several different approaches to reducing the viscosity of a methacrylate mixture (see Column 2, Lines 13 – 17; see also Column 2, Lines 42 – 46; see also Column 5, Lines 21 – 35). Among the approaches taught, Cameron addresses varying the weight percent of the resin that is being used. Another approach that is taught is viscosity reduction using a modifier. Still another approach has to do with the use of temperature as a viscosity adjuster that has an effect on the methacrylate material. Finally, Cameron teaches why it is essential to control the viscosity of the mixture. Based on the teachings provided therein, it would have been obvious to a person having ordinary skill in the art to have measured and regulated the viscosity of the material at the time of invention.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oleiko in view of Imperial, as applied to Claim 10 above, and further evidenced by the International Publication of Schoela et al. (WO 01/56784). For purposes of this office action, all citations are to the U.S. Patent equivalent (6,726,970 and shall hereinafter be referred to as "Schoela-'970"). Oleiko, in view of Imperial, teaches all of the claimed features and limitations as discussed above. Oleiko is silent as to whether the casting process is the cell casting process or a modified form thereof. However, Oleiko teaches that the particularly preferred production process is the Rostero process (see Column 9, Lines 31-39). As evidenced by the teachings of Schoela-'970, the cell casting process, or the Rostero process, can be used to polymerize a (meth)acrylate system (see Column 15, Lines 10-12). As such, it follows that the Rostero process is a modified form of the cell casting process. Therefore, it would have been obvious to a person having ordinary skill in the art at the time of invention to have used a cell casting process or modified form thereof to polymerize a (meth)acrylate system.

(10) Response to Argument

Claims 1-6 and 15 stand rejected and additionally Claims 1, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by the U.S. Patent of Oleiko, et al. (US 6,305,492; hereinafter referred to as "Oleiko").

Applicant argues that the sheet of Oleiko is not only transparent, but that it is intentionally transparent. Applicant asserts that a goal of Oleiko is to form a wall segment that is visually as inconspicuous as possible and barely perceptible. Applicant further asserts that Oleiko clearly excludes the presence of materials that would make the transparent sheets non-transparent. Oleiko is drawn to noise-protection wall-segment (see Title of Patent; see also Abstract), so it follows that the intended purpose could be viewed as to make a noise-protection wall-segment, but there is no statement made that the wall must be transparent. However, it is more clearly stated, in that Oleiko recites that *the object underlying the invention is to make a noise-protection wall-segment which is intended to convey a "visually lighter" impression but at the same time is sufficiently stable in related to loads due to wind pressure* (see Column 2, Lines 2-7). Thus, it is clearly stated that the intended purpose of the wall-segment taught by Oleiko is to be visually lighter, but there is no mention of a requirement that the wall be transparent, and that anything else is strictly prohibited by the teachings that follow that intended purpose. Oleiko also includes in its teachings that the polymerizable compositions that make up the wall-segments may include such conventional additives as dyestuffs and pigments, which would make the transparent sheets non-transparent. After all, *transparent* is defined as "having the property of transmitting light without appreciable scattering so that bodies lying beyond are seen clearly." If the wall-segment taught by

Oleiko can be dyed, such that objects lying on the side opposite the observer can no longer be seen *clearly*, then that wall-segment can be said to be non-transparent (though it may still be translucent, in that it still permits the passage of light through the wall-segment).

Applicant did not argue the rejection of Claims 16 and 17, as that portion of the rejection was not addressed in the brief.

Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent of Gaku, et al. (US 4,904,760).

Applicant further argues that *Gaku et al.* provides no suggestion or motivation to make a fundamental change to *Oleiko et al.* from a transparent material to a non-transparent material. The teachings of Oleiko (infra.) recite that the noise-protection wall segment can comprise various additive substances, such as dyestuffs and pigments, which could make the noise-protection wall segment non-transparent. Therefore, *Gaku et al.* does not serve to correct any purported deficiency in *Oleiko et al.* but rather to expand upon that which is taught by *Oleiko et al.*

Claims 8 and 10 stand rejected and Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the European Patent of Imperial Chemical Industries PLC (EP 0 516 299) (hereinafter "Imperial").

Applicant further argues that *Imperial* provides no suggestion or motivation to make a fundamental change to *Oleiko et al.* from a transparent material to a non-transparent material. The teachings of Oleiko (infra.) recite that the noise-protection wall segment can comprise various additive substances, such as dyestuffs and pigments, which could make the noise-protection wall segment non-transparent. Therefore, *Imperial* does not serve to correct any purported deficiency in *Oleiko et al.* but rather to expand upon that which is taught by *Oleiko et al.*

Applicant did not argue the rejection of Claims 18 and 19, as that portion of the rejection was not addressed in the brief.

Claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent Publication of Schoela, et al. (US 2003/0017289; hereinafter "Schoela-'289").

Applicant further argues that *Schoela-'289* provides no suggestion or motivation to make a fundamental change to *Oleiko et al.* from a transparent material to a non-

transparent material. The teachings of Oleiko (infra.) recite that the noise-protection wall segment can comprise various additive substances, such as dyestuffs and pigments, which could make the noise-protection wall segment non-transparent. Therefore, *Schoela-'289* does not serve to correct any purported deficiency in *Oleiko et al.* but rather to expand upon that which is taught by *Oleiko et al.*

Claim 11 stands rejected and Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the International Publication of Boesman et al. (WO 01/43952).

Applicant further argues that *Boesman et al.* provides no suggestion or motivation to make a fundamental change to *Oleiko et al.* from a transparent material to a non-transparent material. The teachings of Oleiko (infra.) recite that the noise-protection wall segment can comprise various additive substances, such as dyestuffs and pigments, which could make the noise-protection wall segment non-transparent. Therefore, *Boesman et al.* does not serve to correct any purported deficiency in *Oleiko et al.* but rather to expand upon that which is taught by *Oleiko et al.*

Applicant did not argue the rejection of Claim 21, as that portion of the rejection was not addressed in the brief.

Claims 12-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent of Cameron (US 3,780,156).

Applicant further argues that *Cameron* provides no suggestion or motivation to make a fundamental change to *Oleiko et al.* from a transparent material to a non-transparent material. The teachings of Oleiko (infra.) recite that the noise-protection wall segment can comprise various additive substances, such as dyestuffs and pigments, which could make the noise-protection wall segment non-transparent. Therefore, *Cameron* does not serve to correct any purported deficiency in *Oleiko et al.* but rather to expand upon that which is taught by *Oleiko et al.*

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oleiko in view of Imperial, as applied to Claim 10 above, and further evidenced by the International Publication of Schoela et al. (WO 01/56784). For purposes of this office action, all citations are to the U.S. Patent equivalent (6,726,970 and shall hereinafter be referred to as "Schoela-'970").

Applicant did not argue the rejection of Claim 20, as the rejection was not addressed in the brief.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

David J. Joy

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